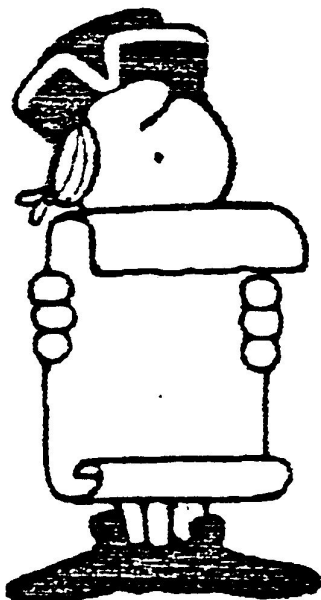


LISTing Newsletter

Newsletter of the Long Island
Sinclair/Timex Users Group



Ten Years
Anniversary

LIST;
Mr. Harvey Rait
5 Peri Lane,
Valley Stream, NY 11581

Listing Submissions to:
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P. O. Box 264,
Holbrook, NY 11741

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Every month LISTing will provide one or more pages devoted to the
QL. This complimentary issue of LISTing contains several
recent QL articles which were published in back issues of
LISTing. In our 10 years of publishing this newsletter, we have
always published 10 issues of LISTing per year.

QL CORNER

This months article has been inspired by Harvey Rait, President of the LIST Group. Harvey's QL power supply failed and he asked me if I could repair the power supply for him. The only problem that I had was opening up the supply case.

I was able to remove two out of the four, cross-slotted screws, destroying two screw drivers during that process. Fred Stern took the power supply home; drilled out the remaining screws and delivered the supply to me via Bob Malloy. This was a real team effort and this is just what LIST is all about!

The Power Supply consists of a small printed circuit board attached to eight transformer windings. First, I checked the output voltage from the line delivering 9 - 12 VDC to the internal QL regulator (the RED lead). The voltage reading was approximately +5 Volts DC, much too low! The first check was to determine if the four rectifier diodes were OK. Using an OHM meter I checked each of the four 1N5400 diodes, back to back. One of the diodes appeared to be shorted, so I removed all four of them and then checked them in both directions with an OHM meter. One diode was shorted and another diode displayed some leakage.

I replaced the two original good diodes and installed two new diodes (1N5401, 100 Volt rating) into the printed circuit board and then tested the output for proper voltage. The supply output indicated +11.5 VDC unloaded (with out the cable attached to the QL). The Power cable was then connected to a QL and when powered up the QL responded as it should.

Some words of caution about repairing the QL power supply: The printed circuit board is made from phenolic resin PC material with a thin copper overlay. This type of PC material is prone to warps and cracking. If you have to remove any of the SIX diodes on the board, use a hot soldering iron and some sort of desoldering tool to pry the diodes out. The diode leads are approximately 1/16" in diameter, heavier than most components you will encounter. Before you reinsert the original diodes into the PC board, carefully file off any burrs and excess solder coating on the diode leads so that they fit into the PC board holes easily - otherwise if you apply too much pressure on the diodes during insertion and the leads aren't smooth, the chance of lifting up the foil trace on the PC board is great, making not only the repair difficult but having to repair the broken trace by adding a short length of tinned wire across the fractured trace.

I tested Harvey's Power Supply unloaded, in other words, it was not connected to the QL before I was sure that the voltage for the QL internal voltage regulator fell between +11 - +12VDC. Once the proper unloaded voltage fell within the above stated range; then I disconnected the power cable from the AC source; connected the cable to the QL and then powered up the supply for testing.

I made an attempt to adjust the 2K2 (2.2K) variable control for a slightly higher voltage output. To my surprise, the control was sealed with a solvent preventing any adjustment of the control. The power supply was then reassembled into the case and I used 4-40x1/2" machine screws as a replacement for the original screws.

Next month I will supply the printed circuit board layout, a component placement layout, a list of components indicating both US and European equivalents and a schematic for the power supply. I will also list voltage measurement points at all component junctions on the PC component layout and if I have the room, I will attempt to provide a simplified theory for the QL power supply.

See you next month.... Bon Gilder

QL CORNER

This is the second installment for the QL Power Supply providing Power Supply Technical Data.

Parts List:

R1 1K5 (1500 ohms), 1/8 W Resistor
R2 5K6 (5600 ohms), 1/8 W Resistor
R3 2K2 (2200 ohms), 1/8 W Resistor
R4 2K2 (2200 ohms), 1/8 W Resistor

VR1 2K2 (2200 ohms), 1/4 W Variable Control

C1 3K3 (3300 Mfd, 16 VDC Electrolytic Capacitor, Radial Lead
C2 3K3 (3300 Mfd, 16 VDC Electrolytic Capacitor, Radial Lead

D1 thru D6 1N5400 3Amp, 50 Volt Rectifier Diode,
ZD1 6.2 Volt, 400 Mw Zener Diode BZY8BC, 1N753A

SCR1 C106D, 4Amps, 400 V Silicon Control Rectifier
Q1 BC547, T092 NPN Transistor

All parts are available from MOUSER Electronics USA Tel: (800) 34-MOUSER Request current purchasing manual 576.

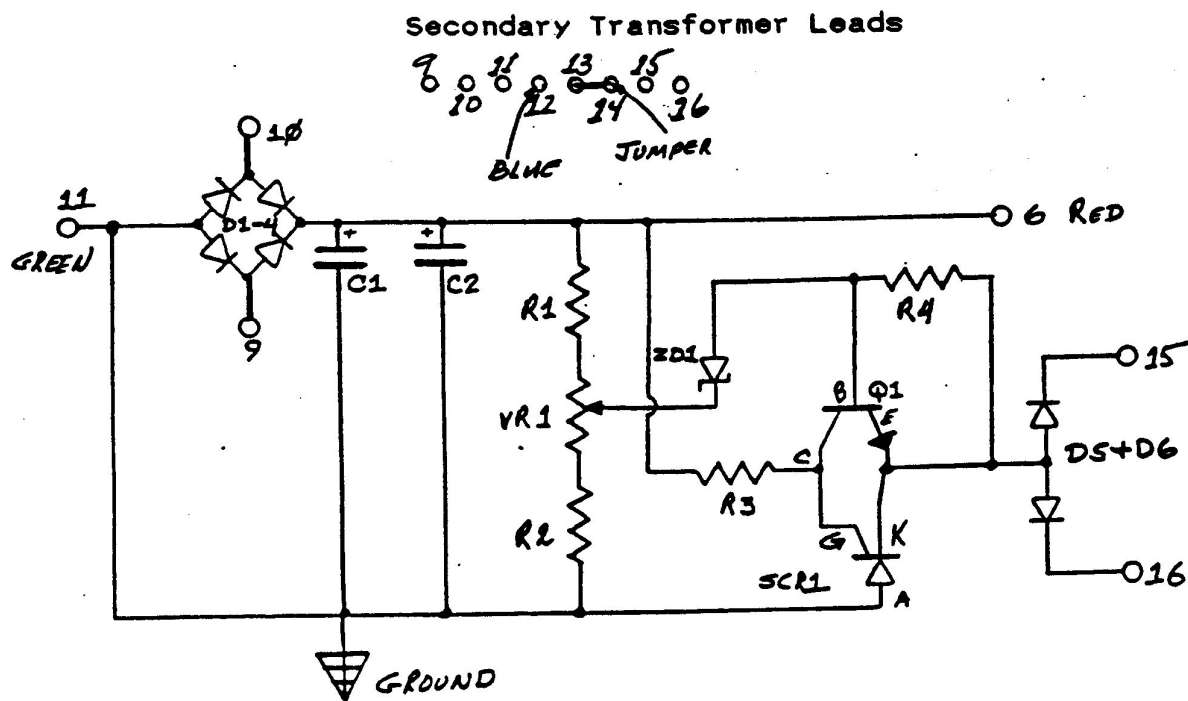
MAPLIN Electronics UK Tel: (0702) 552911 The new catalog is on sale now.

Note: The QL Power Supply Transformer was custom made for Sinclair. There are eight (8) windings, terminating with pins which protrude through the power supply PC board. Transformer windings number 13 and 14 are jumped together. So far I haven't traced the windings for voltage potential, however, I will eventually work on that!

As stated in the December issue of LIST, QL Corner, The only QL problem which I have had with this Power Supply, are defective Rectifier Diodes. A close look at the placement of these defective diodes indicated that they were positioned against the Transformer Laminations which get VERY HOT after several hours of use. I would recommend that if you find your QL locking-up, it may be worth your while to open the Power Supply case and if you find one or more diodes positioned against the transformer windings, bend the offending diode leads outward. This will provide you with extended performance from your Power Supply.

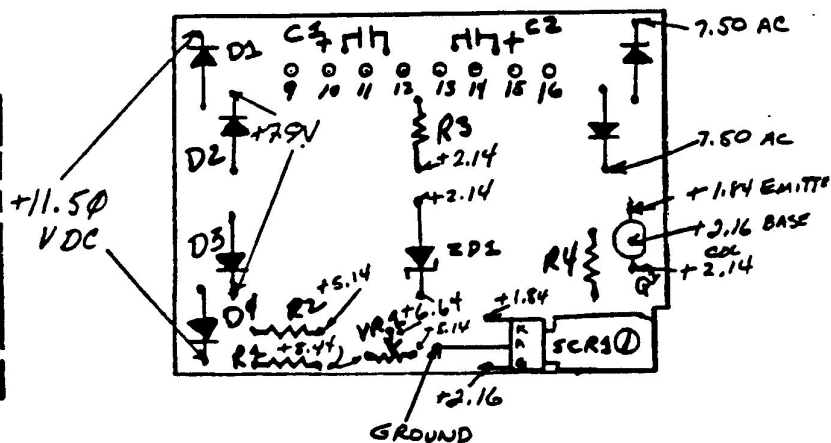
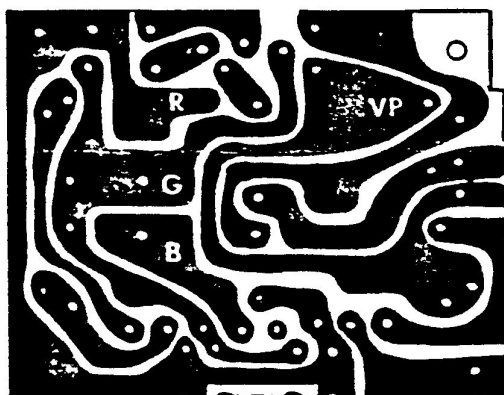
The Power Supply wiring diagram and parts overlay will indicate the Transformer windings as numbers which correspond to the numbers appearing on the transformer. They cannot be seen on the assembled Power Supply; the PC board must be desoldered from the PC board for verification of their associated windings. I have taken apart several of my GOOD Power Supplies and all transformers display the same winding numbers. The reason for this mention, is that several schematics have been published in QUANTA, and each one differs from the other. This is the reason I decided to undertake this project!

Schematic of the Printed Circuit Board Electronics



Printed Circuit Board

Component placement on PC board



Notes: The junction of D2 and D3 is Power Supply Ground.
 All voltages were taken unloaded (not connected to QL).
 All voltages stated are DC unless otherwise noted.
 Voltages as stated +/- .5%, ELENCO Precision DVM.

See you next month.....Bob Gilder

QL CORNER

This summer I spent much of my time learning to use the many new features of XCHANGE and XCHANGE Quill. Some of us had expected an XCHANGE manual to surface somewhere so that we could use XCHANGE more efficiently. This never happened.

I decided to look closely at the five HELP files (those ending with an _hob extension) and decided to re-format them, select those files pertaining to the new commands and printing them out. After working with XCHANGE for several weeks, I added some text to the file I call XCHNOTES. XCHNOTES_doc file is approximately seven (7) pages long and will do for now as a user's manual.

XCHANGE Quill, Archive, Easel and Abacus are updated versions and seem to operate faster than the latest versions of the same named files. When in XCHANGE itself, multi-tasking with additional software isn't a problem. I now use XCHANGE instead of Taskmaster and multi-task The Editor S. E. without any problem.

The mail merge facility in XCHANGE Quill will allow the use of a Name and Address file from either Archive or Quill. So those of you out there who do not use Archive will find a simple _doc file adequate for use as a database. Incidentally, using this mail merge is a lot easier than using a mail merge from a separate Mail Merge program.

I can supply any reader of LIST with a copy of XCHNOTES_doc or XCHNOTES_txt and all five HELP files formatted as _txt and _doc files on disk provided you send me a formatted, 720K disk (either 5 1/4" or 3 1/2") in a suitable envelope so that it can be used for return to you and return postage which is usually 75 cents in stamps. If you need the XCHANGE program, send an additional formatted disk with enough return postage. I will send out the software the next day after receipt of your request.

If any QL user is still suffering from a QL overheating problem, I have on hand a small supply of the 2 Amp version of the 78C05 voltage regulator. (Original version is 1 AMP). The European's have used this fix for quite some time with good results. Here in the 'States' they were not available. If any one needs one, send me \$3.00 and I will send you one, post paid.

Digital Precision has sent me the latest version of The Editor S. E. to review for IQLR. I've been using The Editor since 1987 and upgraded to the Special Edition in 1988. This is the only 'word processing' software that I need. At times I prepare manuals ranging from 20 pages to approximately 200 pages for some friends in the airline entertainment industry. All pages are printed out back-to-back. The Editor SE handles this very well. Any control codes required (bold, double height-width, italics, letter quality, and so on) I embed directly into the text while proof reading. This can be done quite easily since The Editor has a special character set which, when used for control coding, the printer understands and follows through by printing out these commands correctly.

Those of you who use The Editor SE, and don't know whether you have the latest version or not (all SE versions are 2.05 regardless of the upgrade), look at the byte count for the XTRAS file. My original SE version of the XTRAS file indicates 5K 598 bytes; the newest version indicates 7K 268 bytes. There really aren't any new commands added, however many of the commands have been 'tweeked' or improved. The boot file now activates several Lightning files which are included on

the disk, for faster operation of the software. Digital Precision will upgrade The Editor SE for you for a slight fee.

Digital Precision has also upgraded PC CONQUEROR (PC emulator) to operate with more memory when using a Gold Card. This program is called PC Conqueror Gold Special Edition which allows the user with a Gold Card and ED disk drives (3.2 Meg) to get the most out of this PC emulator. I understand that this edition will also support hard drives.

Most of the new software being developed recently operates with Tony Tebby's Pointer Environment which is Mouse operated or with the QL cursor keys. If you are really interested in this type of software, search through the pages of IQLR, QL World, Updates or QUANTA.

There is an awful lot of activity within the QL Software and hardware area, with many software libraries available consisting of public domain and shareware on disks. I have approximately 125, 720K disks full of interesting programs. Just check the ads in QL World for further information.

QUANTA's library has grown by 'leaps and bounds' - I've lost track on just how many disks make up their library. I recently received four 720K disks from Bob Dyl, the East Coast Quanta librarian. The programs on these disks were compressed - The programs on the four original disks are now housed on 15 disks. Decompressing the programs are very easy. as it is menu driven.

If you don't subscribe to IQLR, QL World, Updates or Quanta and are still active with your QL, you should 'get the ball rolling', select one or more of these publications and PLEASE, subscribe.

International QL Report, 15 Kilburn Court, Newport, RI 02840, Telephone: 401-849-3805 EST 10:00 AM through 9:00 PM - \$18.00 USA. Bob Dyl Publishes IQLR 6 times per year.

UPDATE Magazine, P. O. Box 1095, Peru, IN 46970, Tel:317-473-8031 Between 5:00 PM through 9:30 PM Standard Time during the week and noon to 6:00 PM on weekends. \$18.00 US and and \$22.00 outside US. Carol and Frank Davis publishes four times per year - supporting ALL Timex/Sinclair computers.

QL World Magazine, Archwind, The Blue Barn, Tew Lane, Wootton, Woodstock, Oxon, OX7 1HA, UK. USA & Canada '49.90 - Europe '32.90, Credit Cards accepted! Publishes 12 times per year.

QUANTA - a World-Wide-QL User Group, Membership Secretary: Bill Newell, 213 Manor Road, Benfleet, Essex, SS7 4JD UK Telephone:0268 754407. Publishes Quanta magazine 12 times per year and provides a vast software library which is free to all members.

Please... 'byte the bullet'. Let the Magazine publishers know that all QL users in the US will support them so that they can continue to publish their periodicals. Without these publications, software and hardware manufacturers will stop producing their wares because they will not be able to advertise their products - then it will be time to say, Good Bye, QL!

See you next month....Bob Gilder

QL CORNER

I would like to discuss an additional operation for printing documentation from within Quill. I have recently received requests from some of our corresponding LIST members; "How print large documents, say 10 pages or more, back-to-back".

What I mean by 'back-to-back' is that page two is printed on the back of page 1; page four is printed on the back of page three, and so on....

Before you start printing document pages singly, make a list of the pages; both odd pages and even pages and as you start to print each individual page cross out that page number on your list so that you will not become confused when it is time to print the next page.

| ODD | EVEN |
|-----|------|
| 1 | 2 |
| 3 | 4 |
| 5 | 6 |
| 7 | 8 |

and so on.....

When you're ready to print out your document, press F3, P, ENTER. The command line will state Print, current,- press ENTER. The command line will state Print, current, whole, - press 1, ENTER. The command line will state Print, current, 1 to end,- press 1 again and then press ENTER. The command line will state Print, current, 1 to 1, to printer,. To print out the page to your printer, press ENTER and the page will be printed. The next page to be printed should be page 3. Just repeat the above sequence by entering 3 instead of 1, and so on...

Remember to print out ALL odd pages, in their normal sequence as the above table illustrates; then remove the printed pages from your printer and turn the printed paper over and reinsert the paper into your printer. Note that the printed matter on the printer paper NOW faces up. Make sure that you installed the printer paper with the top of page 1 first and ensure that the top of the page is in the proper alignment so that the document header and/or footer will be in the approximate place as is the page 1 side.

This sounds like a lot of work.. it really isn't. Your documents will now be professional looking and as an added benefit, you have only used half the amount of printer paper that you would normally use.

Since the beginning of the year, the German QL market seems to have exploded! Both suppliers have wide variety of new hardware and software for sale. Hard disk drives interfaces for an assortment of small to large capacity hard drives, a QL computer TOWER case, and so much more.

It is my understanding that Mechanical Affinity will also be handling one of the German suppliers software and hardware, contact:

MECHANICAL AFFINITY
c/o Frank Davis
513 East Main Street
Peru Indiana 46970
Tel: 317-473-8031

MECHANICAL AFFINITY
c/o Paaul Holmgren
5231 Wilton Wood Court
Indianapolis, Indiana 46254
tel: 317-291-6002

See you next month.... Bob Gilder

QL CORNER

It seems that I had left out two important voltage readings pertaining to the QL Power Supply article last month. Both voltages supply AC voltage to a +12VDC and -12VDC Voltage regulators, which are used for the Serial ports and Microdrives.

Looking at the printed circuit board layout (foil side), you will notice that three lands are marked 'R', 'G' and 'B'. These pads are where the power cable connects to the power supply and the R G B letters printed on these pads represent the color of the three cables nested within the power cable. Red is soldered to R and so on.

Set your Volt meter at least to 20 Volts AC. Plug the power supply AC connector into an AC outlet. Place the Black meter lead on 'Blue' and the Red meter lead on 'RED'. You should find a reading of approximately 17.30 VAC. If you are using a Digital volt meter you can leave the black lead of your meter on blue and place the Red meter lead on the 'Green' pad. You should get a similar voltage reading as before. If you are using an Analog volt meter switch the leads as stated for the digital volt meter.

As I find additional information which would be necessary for trouble shooting the QL power supply, it will appear in 'The QL Corner'.

A new piece of QL software has surfaced last month from Deltasoft which is titled 'Flightdeck - 1.03'. Flightdeck allows the user to fly a twin-engine jet airliner and provides 3-D views of the 'world' outside. A three and a half page review for this program is reviewed in the December issue of QL World magazine. Flightdeck-1.03 can be purchased from Dilwyn Jones Computing, UK. DJC's address appears in several past issues of LISTing and sports a price of £15.00. Incidentally, it is my understanding that Dilwyn Jones will be attending the QL NEWPORT show this coming May.

Qubbesoft (UK) is launching a new IDE hard disk interface, named QUBIDE. Stuart of Miracle Systems provided the way to connect the interface to the QL ROM port at the back of the QL. The price will range from £75.00 to £100.00. QUBIDE will drive any hard disk up to 120 Megabytes. When additional information surfaces, you will be informed in QL Corner.

While the subject of QL Hard Disk interfaces; a DIY approach has become available by German author Dirk Steinkopfs. Dirk has developed a small hardware circuit with only four TTL gates which connects to the QL expansion connector and sends the proper signals to an IBM PC/XT slot for connection to a Hard Disk board. This interface has been tested with OMTI and Western Digital Hard Disk controllers and suits both MFM and RLL drives.

Software and schematic of Dirk's interface is available from Qubbesoft as a Public Domain disk, Special 22. The software is written in both English and German. It has been stated that this interface performs happily with either a Gold Card or Trump Card. Perhaps the software will show up at the Miracle in Newport II show this May. If so, I will advise our readers of its availability. This information stems from the latest issue of QL World Magazine.

See you next month.....Bob Gilder

QL CORNER

This month I'd like to ramble on about printers. As you may recall, last month I had written about the QL Digitizer. Since then I have had a lot of use with my old Epson MX-80 printer, which I had purchased at a LIST swap fest.

This printer was purchased for one use only...to print screen dumps. Most screen dump routines provided with various software use Epson control codes. I've found using an Epson compatible printer for screen dumps does not truly reproduce an image on paper as far as linearity is concerned - a circle is not exactly reproduced. As they say, 'there is no substitute for the real thing'.

Well to get on with it, the MX-80 started to slow down slightly while printing screen dumps, it appeared that the printer head was dragging. Suddenly the printer came to a halt and I could'nt get it to work. The printer head was very hot so I let it cool off a bit. Approximately an hour later I attempted to print out a disk directory to see if it would function. It responded, however slowly, still dragging. I shut it down and then inspected the printer head and travis rod.

I noticed that there was some black residue on the travis rod, so I used a small piece of clean cloth and wiped it down. While the printer was in the off state, I manually moved the printer head, which should slide easily but didn't. Very carefully I applied a spot of WD-40 lube on each side of the head. Then pushed the head in one direction and then in the other direction. All of a sudden the head moved easily.

The printer was powered up and sprung back to life again, printing as it should.

If you have a similar problem as described above, before using WD-40, place paper towels all around the area you intend to lubricate. You do not want to lubricate the whole printer, as any lubricant can attract dust and cause havoc with the electronics and hardware contained in your printer. Also, when applying the lube, use a spray head with a length of tubing so you can exactly pin-point the spot requiring lubrication. Use sparingly! LIST member Joe LaPunzina advised me that Radio Shack sells a teflon lube that will not attract dust. LUBE GEL part #64-2326 \$2.49.

Several years ago, thumbing through Computer Shopper Magazine, I noticed an ad for an upgrade for older Epson printers. I placed a order for the DotsPerfect upgrade from Dresselhaus Computer Products. Several weeks later the MX-80 upgrade arrived, which included an Eprom soldered to a small PC board and an instruction manual. The instructions were very clear with plenty of glossy photographs for each step upgrading the printer.

What does the upgrade do? An original Epson MX-80 printer was designed as an ASCII character printer, without decenders and without graphics. The upgrade consists of NLQ (Near Letter Quality) print mode, Draft Print Mode, IBM graphics emulation, Buffer CLEAR command and Panel Button Font Selection, using the Line Feed, Form Feed and On Line buttons.

If any one is interested in obtaining information about an upgrade for an older Epson printer, contact: Dresselhaus Computer Products, 8560 Vineyard Ave., Suite 405, Rancho Cucamonga, CA 91730.

See you next month - Bob Gilder

QL CORNER

I would like to present some QL tips that I find useful when programming or probing about a QL for repair.

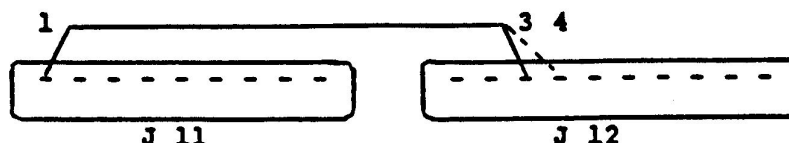
For saving a screen the normal syntax is 'SAVE flpl_filename,131072,32768' and loading is 'LOAD flpl_filename,131072'. The only reason I'm listing the numerical address is that I do get calls occasionally for the loading/saving screen address. For those of you who tend to forget the screen address, perhaps the following short-hand version of the address from the Italian Users Group (QITALY), will help:

'LOAD flpl_ (or mdvl_) filename,2^17' (^ is Shift/6)

For several years I had been using my TS 2068, 360K disk drives with the QL. Several years later I changed over to 720K and ED drives. Recently I had decided to move all of my files from 360K disks to 720K disks and then I ran into some problems. A 720K disk drive (5-1/4") should read a 360K disk. Most of my file transfers went along smoothly, however, I did get some 'bad medium' reports every once in a while. I did not want to hook up a 360K drive with a 720K drive (sometimes I tend to become lazy). Using Taskmaster, I transferred all files from 360K disk to RAM1_, then copied all of files from RAM1_ to a 720K disk without a problem.

I have several 'IBM Keyboard' interfaces for my QLs. All of the K/B interfaces are external, using ribbon cable from the MAB8049HP IC socket to a cased keyboard interface (SCHON and KB 90). The MAB 8049HP IC must be removed and installed onto a small interface which is installed into the MAB8049 socket. Removing this chip can sometimes give me a headache as the chip is very close to the front of the QL case. The remedy: Take a #6 finishing nail and using a hammer, flatten the point end on both sides of the nail. Place the flattened end of the nail into a vise and bend it at a right angle. Insert the formed IC puller under the forward end of the IC and lever it upwards. Now remove the device and insert it under the notched end of the IC and it will now be removed easily, without bent pins.

At times when repairing a QL, I must remove the K/B membrane tails from their respective sockets. When the repair is completed, I do not connect the keyboard membrane tails to the sockets for a check of the QL at power-up. I apply power to the QL and when the prompt appears on the screen to select F1 or F2 screens, I touch one end of a 6-inch length of wire (bared on both ends) to pin 1 on K/B connector J11 and the other end of the wire to pin 3 of K/B connector J12. This activates the F1 high-res screen. If all is well, I then connect the membrane keyboard to the connectors. If you use the low-res screen (F2), touch pin 4 instead of pin 3 of the J12 connector.



The last tip is: If you intend to purchase any goods from the UK, now is the time to do so. The £ is at an all time low. At the time of this writing, the £ is at \$1.42 US. Take advantage of this price break if you need anything from the UK.

See you next monthBob Gilder